

**REMARKS**

Claims 1-11 and 13-21 are pending in the application, with claims 1-8 and 14-21 having been withdrawn from consideration.

Claim 9 has been amended in order to more particularly point out, and distinctly claim the subject matter to which the Applicants regard as their invention. Claim 12 is canceled herewith. It is believed that this Amendment is fully responsive to the Office Action dated **July 30, 2003**.

**Claim Rejections under 35 USC §103**

Claims 9-13 are rejected under 35 USC §103(a) as being unpatentable over Applicant's admitted prior art in view of Wang (U.S. Patent No. 6,188,011 B1).

As a major precondition, the present invention focuses on a so-called buried bit line type semiconductor device as claimed in claim 9. In order to solve the characteristic problems pertinent to the buried bit line type semiconductor device, the present invention requires ensuring electrical insulation between a gate electrode and source and drain regions (condition 1), and also requires suppressing undesirable bird's beak formation in advance (condition 2). In addition, the source and drain regions is formed by introducing a substance having an accelerated oxidation suppressing function, such as nitrogen.

In the present invention, the substance having an accelerated oxidation suppressing function is introduced so that the lowermost layer of the ONO film is appropriately thicker at portions above the source and drain region than at other portions. This constructions indeed

satisfies both conditions 1 and 2, which are apparently inconsistent. In other words, this construction makes it possible to ensure the electrical insulation, and to suppress undesirable bird's beak formation.

On the other hand, in Wang, as apparently shown in Figs. 1 to 4, a normal transistor structure is employed, in which source and drain are formed on both sides of a gate electrode of a semiconductor substrate. Wang discloses the art for reducing diffusion of source and drain by introducing nitrogen after forming the gate electrode, in order to reduce short channel effect of Flash EPROM.

As discussed above, the present invention and Wang have completely different preconditions from each other. The present invention discloses that the substance having an accelerated oxidation suppressing function is introduced to source and drain in order to solve the characteristic problems.

Therefore, the claimed invention is not rendered obvious by the asserted prior art as explained hereinabove and the reasons given in our Amendment of July 15, 2003. In the interest of advancing the prosecution of this application, the subject matter of claim 12 is incorporated into claim 9. By so amending, the claimed invention is even further patentably distinguished over the asserted prior art.

Reconsideration and withdrawal of this rejection are respectfully requested.

**Conclusion**

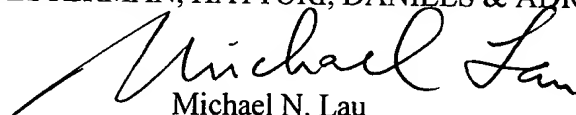
In view of the aforementioned amendments and accompanying remarks, all pending claims are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Michael N. Lau  
Attorney for Applicant  
Reg. No. 39,479

MNL/eg

Atty. Docket No. **010999**  
Suite 700  
1250 Connecticut Ave. NW  
Washington, D.C. 20036  
(202) 822-1100

**\*38834\***

PATENT TRADEMARK OFFICE

Enclosures: Drawing Replacement Sheets (3 pages)

Q:\Attorney Files\Lau Mike\010999\010999 a2.doc